Please amend the above identified application as follows:

In the Claims:

Please amend the following claims:

18. (Twice Amended) A method of identifying[determining whether] a mammalian cell [contains]containing a mutant Rad51 gene comprising determining the sequence of all or part of an endogenous Rad51 gene of a mammalian cell and comparing said sequence to a known mammalian Rad51 gene.

19. (Thrice Amended) A method of identifying a[the] Rad51 genotype of [an] a human individual comprising determining all or part of the sequence of at least one Rad51 gene of said individual and comparing said sequence to a known human Rad51 gene.

21. (Twice Amended) A method according to claim 19 [20] wherein a difference in the sequence between the Rad51 gene of said individual and said known Rad51 gene is indicative of a disease state or a propensity for a disease state, and wherein said difference in the sequence of the Rad51 gene in the individual results in aberrant Rad51.

Please add the following new claims:

47--~~22~~. A method according to claim 21 wherein said disease state is cancer.

48 ~~23~~. A method according to claim ~~22~~ 47 wherein said cancer is breast cancer.

49 ~~24~~. A method according to claim 21 wherein said disease state is Xeroderma pigmentosum Type A.

50 ~~25~~. A method according to claim 21 wherein said disease state is Xeroderma pigmentosum Type F.

51 ~~26~~. A method according to claim 18 wherein the mutation in Rad51 affects biological activity and wherein said biological activity is selected from the group consisting of nucleic acid binding, filament formation, DNA pairing (i.e. D-loop formation), strand exchange, strand annealing, formation of foci and recombinagenicity.